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The impact of food intolerance for chronic urticaria

Chronic urticaria

- > 30 % of CU patients incriminate foods
- 2- 3% suffer from intolerance to food additives (DBPCFCS)
- 1- 5% suffer from IgE mediated food allergy
- 20-90% response to a diet

Moneret-Vautrin DA. Ann Dermatol Venereol. 2003;130:35-42
Zuberbier T. J Investig Dermatol Symp Proc. 2001;6:132-4

Dietary management

EAACI/GA2LEN/EDF guideline: management of urticaria

- Specific food allergens need to be omitted as best as possible. Elimination clears urticaria symptoms within 24-48 h.
- In cases of pseudoallergic reactions to naturally occurring food ingredients and to food additives a low-pseudoallergen diet is recommended during a period of 3-6 months. During this time spontaneous remission is achieved in approximately 50% of patients.

Zuberbier T, et al. Allergy. 2006;61:321-31

Chronic Urticaria - diet

834 patients, 4 weeks diet

remission	264 (31,7%)
food dependent	140 (16,7%)
DBPC _{mix}	116 (13,9%)
DBPC _{sing}	24 (2,9%)

Di Lorenzo G, et al. Int Arch Allergy Immunol 2005;138:235-42

Chronic Urticaria - diet

- Improve or clearing urticaria symptoms?
- Food intolerance - trigger or cause for CU?
- Follow up – long-lasting effects?

Intolerance-urticaria?

- Is it intolerance urticaria if only a decrease of urticaria severity is observed?
- The reproducibility of provocation tests seems to be very low.
- Follow-up?

Urticaria study

- open pilot study on 153 consecutive patients (10-76 years, mean 42 years) suffering from chronic idiopathic urticaria
- > 6 weeks, urticaria symptoms at least once a week within the last 4 weeks
- low-pseudoallergen diet over a period of 5 weeks

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

Diet - results

104/153 (68%) finish the diet

- full responder 18 (17%)
- partial responder 53 (51%)
- non-responder 33 (32%)

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

Incremental build up food challenge (IBUF)

- Reintroduction of foods in patients with remission due to the elimination diet
- Six 1-week steps with different cumulative food ingredients
- In the case of a relapse avoiding foods of that step and going on in the IBUF protocol

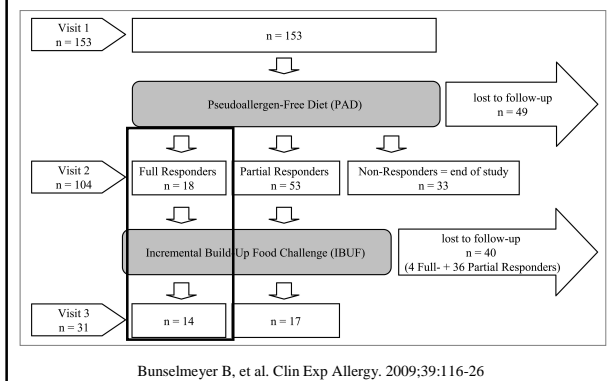
Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

Incremental build up food challenge (IBUF)

step	cumulative ingredients	foods
1	none	whole flour bread, onions, eggs, olive oil, fresh sea fish, melon
2	biogenic amines, nitrite, nitrate	well matured cheese, Scombroidea (mackerel, tuna, herring) kohlrabi, banana
3	natural phenolic substances: p-hydroxybenzoic acid, cumaric acid, salicylic acid, flavours, ethereal oils	fruits, fruit juice, vegetables, nuts, herbs, spices
4	food additives (no dyes)	foods are permitted, if no dyes are added
5	food dyes	coloured foods with natural and artificial food dyes
6	alcohol	beer, wine, liquors, spirits

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

IBUF – pilote study



Incremental build up food challenge

ID	IBUF						Telephone follow-up			Symptoms during IBUF in agreement with telephone follow-up
	Step I	Step II	Step III	Step IV	Step V	Step VI	Eliciting foods/substances?	Avoidance actually?	Free of symptoms?	
1	+	++	+				Fruits and fruit products	Yes	Yes	Yes
2		++		++			Bananas	Yes	Yes	Yes
3		+	+				Bananas, tomatoes, tuna	Yes	Yes	Yes
4					+		Food dyes and additives	Yes	Yes	Yes
5			+				Dyes, chocolate and cacao products (high amount)	Yes	Yes	Yes
6						++	Red wine, fruit and herb liquors	Yes	Yes	Yes
7		+	+				Pears, grapes, nuts, curry	Yes	Yes	Yes
8					+	+	Food dyes and additives, red wine	No*	Yes	Yes
9						+	Salami	NA [†]	Yes	Yes
10							Food dyes and additives	Yes [†]	Yes	No
11							Not found	NA [†]	Yes	NA
12	++	++	++	++	++	++	Not found	NA [†]	No	NA
13							Lost to follow-up	NA	NA	
14							Lost to follow-up	NA	NA	
n	2	6	5	9	4	4				

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

IBUF - results

31/104 (30%) finish IBUF
FR 14 PR 17

- 12 patients showed a recurrence during IBUF
- 2 patients were symptom-free during the complete IBUF
- all suffered from urticaria during IBUF
- None could detect a trigger

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

IBUF – follow-up

31/104 (30%) finish IBUF
FR 14

11 were symptom-free
2 lost to follow up

- 7 identify and avoid a trigger
- 1 avoid additives by personal reasons
- 3 become tolerant

Bunselmeyer B, et al. Clin Exp Allergy. 2009;39:116-26

IBUF - consider

- individual dietary habits
- the dose dependency of pseudoallergic reactions
- interactions between foods and food ingredients
- challenge of unknown pseudoallergens

IBUF - conclusion

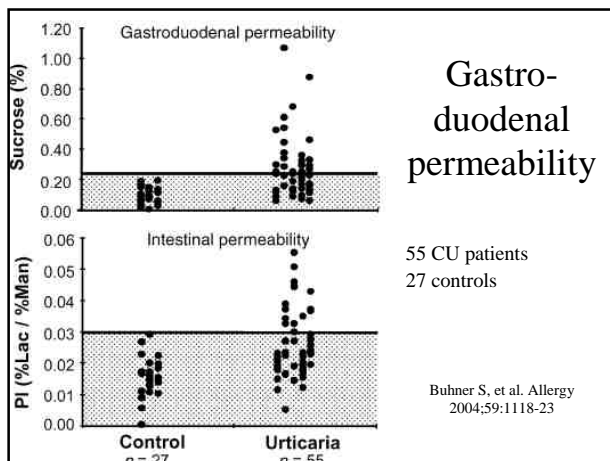
- The low pseudoallergen diet was effective in 86,3% of the patients but only a few patients were full responders (17,3%).
- IBUF was useful only in full responders, 11/14 were long-lasting symptom-free.

Number of patients suffering from intolerance-urticaria is low

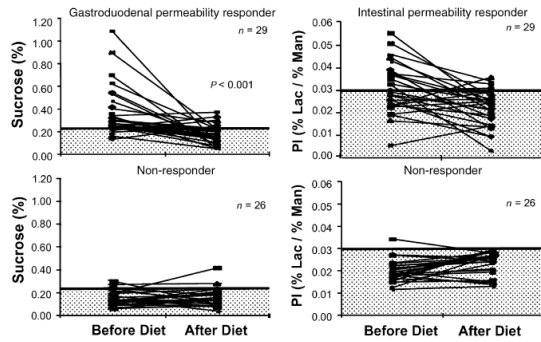
Intolerance-urticaria due to altered gastroduodenal permeability?

- 55 patients suffering from CIU
- gastro duodenal permeability was measured due to
 - Sucrose absorption (gastro-duodenal permeability)
 - lactulose/mannitol ratio (intestinal permeability)
- analysis before and after 24 days of diet

Buhner S, et al. Allergy 2004;59:1118-23



Gastro-duodenal permeability



Buhner S, et al. Allergy 2004;59:1118-23

Urticaria - diet Open questions

- Is the low-pseudoallergenic diet the best diet for patients with CIU?
- Similar results due to light diet?
- Need for an affirmation of the importance of gastro-duodenal permeability in CIU
- Need for studies proving the efficacy of other kinds of diet
